What is claimed is:

1. An energy absorbing system comprising:

a fitting having a crack inducing surface extending radially outward in relation to an axis;

an energy absorbing element formed by a hollow body, said hollow body extending along said axis and having a first end adapted to interact with said crack inducing surface of said fitting so as to radially spread said hollow body thereby forming cracks in said hollow body in response to forces applied in a direction substantially parallel to said axis which forces push said crack inducing surface against said first end;

said hollow body having layers of reinforcing flat material embedded in a matrix material and comprising a single winding of said flat material about said axis;

a number of layers of said reinforcing flat material in said hollow body being different in different areas of said hollow body;

said layers of reinforcing flat material extending in said hollow body in a defined manner to cause: (i) said forces to be absorbed by said hollow body without folding; and (ii) the layers of reinforcing flat material to receive cracks which begin at said first end and expand through said different areas of said hollow body in said direction substantially parallel to said axis.

2. An energy absorbing system in accordance with claim 1, further comprising a crack triggering element arranged on one of said fitting or said hollow body end.

3. An energy absorbing system in accordance with claim 2, wherein said crack triggering element comprises a chamfer at said first end of said hollow body adapted to interact with said crack inducing surface.

4. An energy absorbing system in accordance with claim 2, wherein said crack triggering element comprises slits in said first end of said hollow body.

5. An energy absorbing system in accordance with claim 1, wherein said reinforcing flat material comprises a single piece of flat material.

6. An energy absorbing system in accordance with claim 5, wherein the single piece of flat material has a section with a maximum width in a direction parallel to said axis and at least one section with a lesser width in said direction parallel to said axis.

7. An energy absorbing system in accordance with claim 1, wherein sections of the flat material are contoured to provide the different areas having the different number of layers during supplying the flat material to a mandrel to form said hollow body.

8. An energy absorbing system in accordance with claim 7, wherein the piece of flat material is contoured by means of a cutting procedure.

9. An energy absorbing system in accordance with claim 1, wherein sections of the piece of flat material are contoured

to provide the different areas having the different number of layers prior to supplying the flat material to a mandrel to form said hollow body.

10. An energy absorbing system in accordance with claim 9, wherein the piece of flat material is contoured by means of a cutting procedure.

11. An energy absorbing system in accordance with claim 1, wherein a maximum extension of a contoured piece of flat material in a direction parallel to said axis corresponds to a maximum extension of the hollow body in said direction parallel to said axis.

12. An energy absorbing system in accordance with claim 1, wherein multiple pieces of flat material are supplied to a winding procedure in parallel to form said hollow body.

13. An energy absorbing system in accordance with claim 12, wherein the multiple pieces of flat material are supplied to the winding procedure as a connected arrangement of pieces of flat material in which said pieces of flat material are arranged in a sequence extending in a direction parallel to said axis.

14. An energy absorbing system in accordance with claim 13, wherein the multiple pieces of flat material are connected in a section which increases the number of layers in all the areas of the hollow body in an equal manner.

15. An energy absorbing system in accordance with claim 13, wherein the pieces of flat material are connected in a section with maximum width.

16. An energy absorbing system in accordance with claim 1, wherein the reinforcing flat material is impregnated with the matrix material prior to a winding of the reinforcing flat material to form the hollow body.

17. An energy absorbing system in accordance with claim 16, wherein the winding of the reinforcing flat material is carried out with one of a liquid or a liquifiable matrix material.

18. An energy absorbing system in accordance with claim 17, wherein the matrix material is liquefied during the winding.

19. An energy absorbing system in accordance with claim 18, wherein the matrix material is kept at a melting temperature during the entire winding of the reinforcing flat material.

20. An energy absorbing system in accordance with claim 19, wherein the matrix material is heated to the melting temperature during the winding of the reinforcing flat material.

21. An energy absorbing system in accordance with claim 20, wherein the matrix material is heated to the melting temperature by means of a mandrel which is heated and kept at the melting temperature.

22. An energy absorbing system in accordance with claim 19, wherein the matrix material is heated to the melting temperature by means of a mandrel which is heated and kept at the melting temperature.

23. An energy absorbing system in accordance with claim 22, wherein the mandrel is heated to the melting temperature of the matrix material prior to the winding.

24. An energy absorbing system in accordance with claim 23, wherein the mandrel is heated to the melting temperature of the matrix material prior to insertion into a winding device.

25. An energy absorbing system in accordance with claim 16, wherein the matrix material is heated to such an extent that it is adequately liquefied during the winding of the reinforcing flat material.

26. An energy absorbing system in accordance with claim 25, wherein the matrix material is hardened in the hollow body following the winding.

27. An energy absorbing system in accordance with claim 26, wherein the matrix material is hardened with the hollow body seated on a winding tube.

28. An energy absorbing system in accordance with claim 1, wherein the matrix material comprises one of a thermoplastic material or a duroplast material.

29. An energy absorbing system in accordance with claim 1, wherein the surface of said fitting is toroidal in shape.

30. An energy absorbing system in accordance with claim 1, wherein the fitting comprises:

a cylindrical guide section having a casing surface which abuts an inner surface of said hollow body at said first hollow body end; and

a channel section extending annularly around the axis and having a base surface bordering the casing surface and extending radially outward in relation to said axis.

31. An energy absorbing system in accordance with claim 30, wherein said channel section is toroidal in shape.

32. An energy absorbing system in accordance with claim 1, further comprising:

a second fitting having a contact surface transverse to said axis and adapted to support the hollow body at a second end thereof.

33. An energy absorbing system in accordance with claim 32, further comprising:

securing means for securing the second end of the hollow body to said second fitting.

34. An energy absorbing system in accordance with claim 33, wherein said second end of said hollow body is adapted to absorb said forces without folding and to transfer these forces to said second fitting so that the cracks are induced

in said first end of said hollow body and extend along said axis toward said second end.